

Date: Wednesday, 3/26/2008 9:53:37 AM
 User: Kim Johnston

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : 407 HIGH AFT X-TUBE ASSEMBLY
 Job Number : 38168
 Estimate Number : 10528
 P.O. Number :
 This Issue : 3/26/2008 S.O. No. :
 Prsht Rev. : NC Part Number : D407667205
 First Issue : / / Type : LANDING GEAR Drawing Number : D407-667-245 REV D
 Previous Run : 38167 Drawing Revision : D
 Material :
 Due Date : 4/15/2008 Qty: 1 Um: Each

Written By :
 Checked & Approved By : JD 08.3.27
 Comment : Est Rev:C 05.09.02 Add holes for compatibility with Bell
 Skidtubes KJ/JLM
 Est Rev:D Added Magnobond,Rubber Cushion & Clamps
 07-02-19 JLM

****CHANGE TO CHG 005 - IF USING D2894-1 B35578 OR
 GREATER****

Additional Product

Job Number:



Seq. #: Machine Or Operation: Description :

1.0 DC DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Photocopy bluefile and create labels as per PPP D407-667-205CHG004

2.0 PACKAGING 1 PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

3.0 D407667205TRN CROSSTUBE TURNING DETAIL



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

CROSSTUBE TURNING DETAIL

batch B38011

RL 8-4-21

4.0 BENDING BENDING MACHINE



Comment: LANDING GEAR RESOURCE 1

1-Bend tube as per Dwg D407-667-245 using CNC bender program 407 Aft and Folio FT

RL 8-4-21
P70

Dart Aerospace Ltd

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: D407-667-205 PAR #: N/A Fault Category: Prod / cross tube NCR: (Yes) No DQA: D Date: 08/04/24
 QA: N/C Closed: D Date: 08/04/24

| NCR: 38168 | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| 08/04/21 | 4.0 | X-tube was over bent on one side by 0.77" from nominal. Encoder wheel did not touch the tube for a small section, allowing the rollers to bend past the tangent line, tube was possibly over bending in the process, causing too much of a radius in the bend, and the encoder wheel moved out. DEVELOPMENT | MS 08/04/23 | Encoder wheel is bumpy work freely Tube is scrap. | EL 8/4/21 | D 08/04/23 | MS 08/04/23 | / 08/04/21 |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 407 HIGH AFT X-TUBE ASSEMBLY

Job Number: 38168

Part Number: D407667205

Job Number:



| Seq. #: | Machine Or Operation: | Description : |
|---------|-----------------------|---------------|
|---------|-----------------------|---------------|

| | | |
|-----|-----|-------------------|
| 5.0 | QC6 | DIMENSIONAL CHECK |
|-----|-----|-------------------|



Comment: DIMENSIONAL CHECK

| | | |
|-----|----------------|-------------------------|
| 6.0 | LANDING GEAR 1 | LANDING GEAR RESOURCE 1 |
|-----|----------------|-------------------------|



Comment: LANDING GEAR RESOURCE 1

1-Drill pilot holes in tube using drill Jig DT8583 & DT8584 as per Dwg D407-667-245. Drill all (3) top holes.

2-Drill and Ream all holes in tube to finish size using drill Jig DT8583 & DT8584 as per Dwg D407-667-245 Check dimensions between holes on all four sides.

3-Flip tube and switch drilling Jigs from right to left, left to right. Locate Jigs off existing holes using "T" pins.

4-Drill pilot holes using drill Jig DT8583 & DT8584 as per Dwg D407-667-245. Drill only the top (2) holes.

5-Drill & ream the top (2) holes to finish size using drill Jig DT8583 & DT8584 as per Dwg D407-667-245

6-Drill Aft rivet holes using drill Jig DT8789 as per Dwg D407-667-245. Note: Aft side has 3x top holes.

7-Drill Fwd rivet holes using drill Jig DT8789 as per Dwg D407-667-245. Drill only the top (3) holes.

8-C'sink holes as per Dwg D407-667-245. Allow rivet to sit below surface to compensate for paint.

9-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D407-667-245

| | | |
|-----|-----------------|----------------------------|
| 7.0 | HAND FINISHING1 | HAND FINISHING RESOURCE #1 |
|-----|-----------------|----------------------------|



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

| | | |
|-----|-----|-----------------------------------------|
| 8.0 | QC3 | INSPECT POWDER COAT/CHEMICAL CONVERSION |
|-----|-----|-----------------------------------------|



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

Date: Wednesday, 3/26/2008 9:53:37 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 407 HIGH AFT X-TUBE ASSEMBLY

Job Number: 38168

Part Number: D407667205

Job Number:



| Seq. #: | Machine Or Operation: | Description : |
|---------|-----------------------|---------------|
|---------|-----------------------|---------------|

| | | |
|-----|-----|------------------------------|
| 9.0 | QC5 | INSPECT WORK TO CURRENT STEP |
|-----|-----|------------------------------|



Comment: INSPECT WORK TO CURRENT STEP

| | | |
|------|-----------------|------------------|
| 10.0 | OUTSIDE SERVICE | OUTSIDE SERVICES |
|------|-----------------|------------------|



Comment: Sub-Contracting OUTSIDE SERVICES
Liquid Penetrant Inspection as per QSI 038Or
Issue P/O: _____ LPI as per ASTM 1417
Level 2 Attach copy of NDT results to work order

| | | |
|------|-------------|-----------------------|
| 11.0 | PACKAGING 1 | PACKAGING RESOURCE #1 |
|------|-------------|-----------------------|



Comment: PACKAGING RESOURCE #1
Inspect for transit damage
Ensure copy of NDT results attached to work order.

| | | |
|------|------|------------------------------|
| 12.0 | QC15 | DIMENSIONAL CHECK OF X-TUBES |
|------|------|------------------------------|



Comment: DIMENSIONAL CHECK OF X-TUBES

| | | |
|------|----------------|----------------|
| 13.0 | SPRAY PAINTING | SPRAY PAINTING |
|------|----------------|----------------|



Comment: SPRAY PAINTING

1-Prime inside and outside crosstube as per QSI 005 4.2

2-Paint outside crosstube with White Imron as per QSI 005 4.2

| | | |
|------|------|---------------------|
| 14.0 | QC14 | INSPECT SPRAY PAINT |
|------|------|---------------------|



Comment: Inspect Spray Paint
Wrap in plastic bag to protect from scratches

| | | |
|------|----------|----------------|
| 15.0 | D2856400 | Abrasion Strip |
|------|----------|----------------|



Comment: Qty.: 1.3524 f(s)/Unit Total : 1.3524 f(s)
Pick:
Qty Part number Description Batch
2 D2856-400(Cut to 7.73") Abrasion Strip _____

Dart Aerospace Ltd

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

Date: Wednesday, 3/26/2008 9:53:38 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 407 HIGH AFT X-TUBE ASSEMBLY

Job Number: 38168

Part Number: D407667205

Job Number:



Seq. #:

Machine Or Operation:

Description :

16.0

D2873043

Nut Plate Assembly



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 D2873-043 Nut Plate

17.0

D2873045

Nut Plate Assembly



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 D2873-045 Nut Plate

18.0

D28941

2.750 Support



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part number Description Batch

1 D2894-1 Support

19.0

D31901

Chafing Shield



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 D3190-1 Chafing Shield

20.0

D3595

Rubber Cushion (per sq ft)



Comment: Qty.: 0.0246 sf(s)/Unit Total : 0.0246 sf(s)

Rubber Cushion

2X .750" X 4.30"

Batch:

21.0

MS20601AD4W8

RIVET



Comment: Qty.: 14.0000 Each(s)/Unit Total : 14.0000 Each(s)

Pick:

Qty Part number Description Batch

14 MS20601AD4W8 Rivet

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

Date: Wednesday, 3/26/2008 9:53:38 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 407 HIGH AFT X-TUBE ASSEMBLY

Job Number: 38168

Part Number: D407667205

Job Number:



Seq. #:

Machine Or Operation:

Description :

22.0

MS2192022

Clamp(per MIL-DTL-8783C)



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty Part number Description Batch

4 MS21920-22 Clamp _____

23.0

MS2192025

Clamp(per MIL-DTL-8783C)



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Clamp(per MIL-DTL-8783C)

Batch: _____

24.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Install abrasion strips as per QSI 035 using DT8674. Install chafing shield as per Dwg D407-667-245. Note: (3) top holes should be facing up.

2- Lightly scuff the bonded area using a 320 grit sand paper and clean the area with 41058 wash 'n' wipe

3-Install support with magnobond and install clamps as per Dwg D407-667-245. Torque clamps to 80-100 in lb

A/R Magnobond Batch: _____

EXP: _____

4-Install nut plates as per Dwg D407-667-245. Touch-up rivet heads with Imron paint.

25.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

26.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Pick Packing Kit

Dart Aerospace Ltd

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

Date: Wednesday, 3/26/2008 9:53:38 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 407 HIGH AFT X-TUBE ASSEMBLY

Job Number: 38168

Part Number: D407667205

Job Number:



Seq. #:

Machine Or Operation:

Description :

27.0

AN534A

Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Bolt

Batch: _____

28.0

MS21042L5

Nut



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Nut

Batch: _____

29.0

AN510A

Bolt



Comment: Qty.: 10.0000 Each(s)/Unit Total : 10.0000 Each(s)

Pick:Packing Kit

Qty Part number

Description Batch

10 AN5-10A

Bolt _____

30.0

AN532A

Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:Packing Kit

Qty Part number

Description Batch

4 AN5-32A

Bolt _____

31.0

AN960JD516

Washer



Comment: Qty.: 18.0000 Each(s)/Unit Total : 18.0000 Each(s)

Pick:Packing Kit

Qty Part number

Description Batch

18 AN960JD516

Washer _____

32.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

33.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and in kanban rack

Location: _____

Dart Aerospace Ltd

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

Date: Wednesday, 3/26/2008 9:53:38 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 407 HIGH AFT X-TUBE ASSEMBLY

Job Number: 38168

Part Number: D407667205

Job Number:



Seq. #:

Machine Or Operation:

Description :

34.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



mf 08-04-23

Dart Aerospace Ltd

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

| | |
|--------------------------------------------|----------------------------------|
| DART AEROSPACE LTD | Work Order: 38168 |
| Description: Crosstube Assembly | Part Number: D407-667-245 |
| Inspection Dwg: D407-667-245 Rev: D | Page 1 of 1 |

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article
 ☐ Prototype

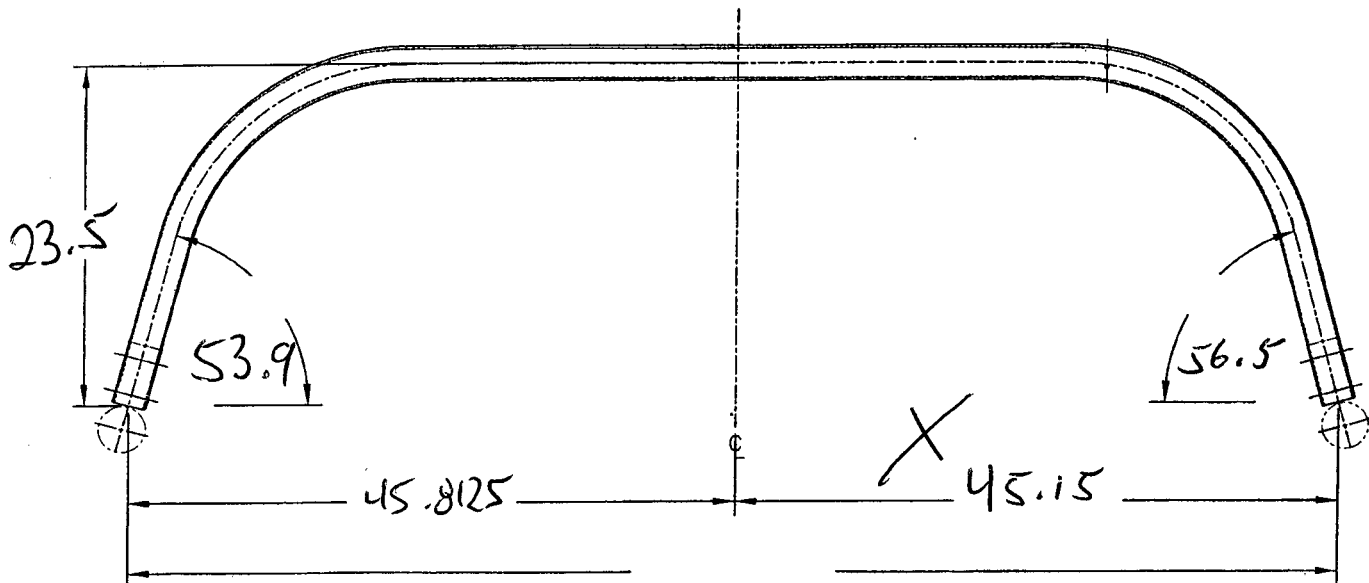
| Inspection Sheet Drawing Dimension | Tolerance | Actual Dimension | Accept | Reject | Method of Inspection | Comments |
|---------------------------------------|-----------|---------------------|--------|--------|-------------------------|----------|
| SIDE A | 2.490 | +0.005/-0.000 | | | | |
| | 1.832 | +0.005/-0.000 | | | | |
| | 1.838 | +0.005/-0.000 | | | | |
| | 1.892 | +0.005/-0.000 | | | | |
| | 2.052 | +0.005/-0.000 | | | | |
| | 2.206 | +0.005/-0.000 | | | | |
| | 2.521 | +0.005/-0.000 | | | | |
| | 2.633 | +0.005/-0.000 | | | | |
| | | | | | | |
| | 4.10 | +/-0.030 | | | | |
| | 4.978 | +/-0.030 | | | | |
| | 2.040 | +0.000/-0.010 | | | | |
| | 0.125 | +/-0.010 | | | | |
| | R0.063 | +/-0.010 | | | | |
| | R0.500 | +/-0.010 | | | | |
| | | | | | | |
| SIDE B | 2.490 | +0.005/-0.000 | | | | |
| | 1.832 | +0.005/-0.000 | | | | |
| | 1.838 | +0.005/-0.000 | | | | |
| | 1.892 | +0.005/-0.000 | | | | |
| | 2.052 | +0.005/-0.000 | | | | |
| | 2.206 | +0.005/-0.000 | | | | |
| | 2.521 | +0.005/-0.000 | | | | |
| | 2.633 | +0.005/-0.000 | | | | |
| | | | | | | |
| | 4.10 | +/-0.030 | | | | |
| | 4.978 | +/-0.030 | | | | |
| | 2.040 | +0.000/-0.010 | | | | |
| | 0.125 | +/-0.010 | | | | |
| | R0.063 | +/-0.010 | | | | |
| | R0.500 | +/-0.010 | | | | |
| | 112.91 | +/-0.020 | | | | |

| | | | | | |
|---------------------|--|--------------------|--|----------------------------|-----|
| Measured by: | | Audited by: | | Prototype Approval: | N/A |
| Date: | | Date: | | Date: | N/A |

| Rev | Date | Change | Revised by | Approved |
|-----|----------|---------------------------------------|------------|----------|
| A | 04.04.21 | New Issue (P/O D407-667-205) | KJ/RF | |
| B | 06.03.09 | Dwg Rev updated | KJ/JLM | |
| C | 06.03.30 | Tolerance revised for 4.978 dimension | KJ/JLM | |
| D | 07.02.19 | Dwg Rev updated | KJ/JLM | |

| | | | |
|---------------------------------------|--|--------------|--------------|
| DART AEROSPACE LTD | | Work Order: | |
| Description: Crosstube High Aft (407) | | Part Number: | D407-667-205 |
| Inspection Dwg: D407-667-245 Rev: D | | Page 1 of 1 | |

| Required Dimension | Min | Max |
|--------------------|-------|-------|
| Height | 23.46 | 23.58 |
| 1/2 Span | 45.86 | 45.98 |
| Angle | 54 | 56 |
| Total Span | 91.72 | 91.96 |



| Comments |
|-------------------------------------------------|
| Tube is severely over bent on one side by 0.77" |
| & tube is scrap |
| |
| |

| | |
|-----------------|--|
| QC15 Inspection | |
| Date | |

| Rev | Date | Change | Revised by | Approved |
|-----|----------|-----------|------------|--------------------|
| A | 07.02.06 | New Issue | KJ/JM | <i>[Signature]</i> |

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 38168

DART

| | | | |
|------------------------|-------------------------|------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| DESIGN PH | DRAWN BY PH | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA | |
| CHECKED [Signature] | APPROVED [Signature] | DRAWING NO. D407-667-245 | REV. D SHEET 1 OF 3 |
| DATE 07.02.07 | | TITLE CROSSTUBE ASS'Y (407 HIGH AFT) | SCALE NTS |
| A | 02.05.13 | NEW ISSUE | |
| B | 03.05.21 | ADD CHAFING SHIELD | |
| C | 05.07.26 | ADD HOLES AND NUT PLATES FOR COMPATABILITY WITH BHT/AA SKIDTUBES | |
| D | 07.02.07 | ADD VIEW FOR OEM SKID HOLES, ROTATE ORIENTATION OF CLAMPS SECTION F-F, REMOVE -851 ABRASION STRIP, ADD MAGNOBOND 6398, ADD CUSHION | |

RELEASED

07.02.14 [Signature]

| Qty | Part Number | Description |
|-----|---------------|-----------------------------------|
| X | D407-667-245 | CROSSTUBE ASSEMBLY (407 HIGH AFT) |
| 1 | D6011-115 | CROSSTUBE |
| 2 | D2856-400-773 | ABRASION STRIP |
| 2 | D2873-043 | NUT PLATE |
| 2 | D2873-045 | NUT PLATE |
| 1 | D2894-1 | SUPPORT |
| 2 | D3190-1 | CHAFING SHIELD |
| 2 | D3595-075-430 | RUBBER CUSHION |
| 14 | MS20601AD4W8 | RIVET (OR NAS9302B-4-8) |
| 4 | MS21920-22 | CLAMP |
| 2 | MS21920-25 | CLAMP (OR MS21920-24) |

GENERAL NOTES:

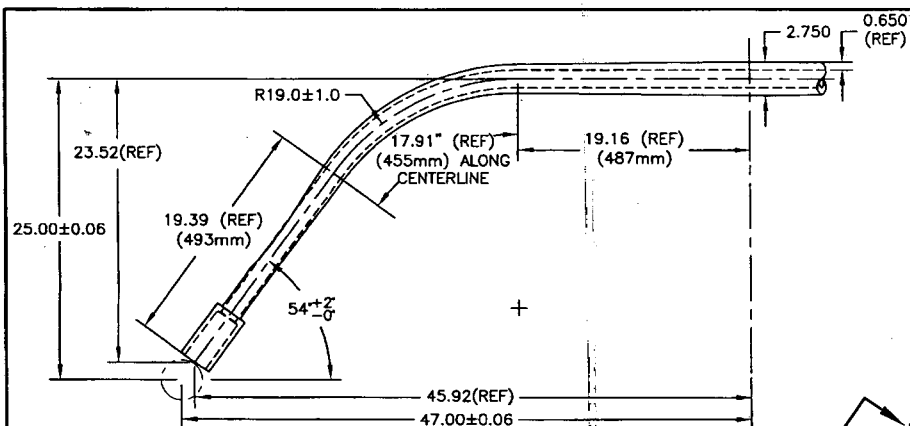
- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 2) MATERIAL: MANUFACTURED FROM D6011-115
FINISHED LENGTH = 112.91±0.020
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 4) PART IS SYMMETRIC ABOUT CENTERLINE.
- 5) RUN-OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 6) BEND PROGRESSIVELY WITH A MINIMUM OF 6 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 7) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 8) SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH VIBRATING STYLUS.
- 9) INSTALL D2856-400-773 ABRASION STRIP WITH A 0.13 (REF) GAP ON BOTTOM SIDE OF CROSSTUBE, PER QSI 035.
- 10) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 11) INSTALL D2894-1 CENTER SUPPORT USING A 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 12) INSTALL MS21920-25 CLAMPS WITH D3595-075-430 RUBBER CUSHIONS TO SECURE D2894-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE CROSSTUBE SUPPORT.
NOTE: MS21920-24 CLAMPS CAN BE USED TO ACCOMMODATE VARYING DIAMETERS. ENSURE THERE IS A MINIMUM OF 1.5 THREADS IN SAFETY ON THE NUTS.
- 13) TORQUE CLAMPS 80 TO 100 IN-LB.
- 14) INSTALL D3190-1 CHAFING SHIELDS SO THAT OVERLAP IS ON BOTTOM SIDE OF CROSSTUBE OPPOSITE D2894-1 SUPPORT.

SHOP COPY
RETURN TO
ENGINEERING
CONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

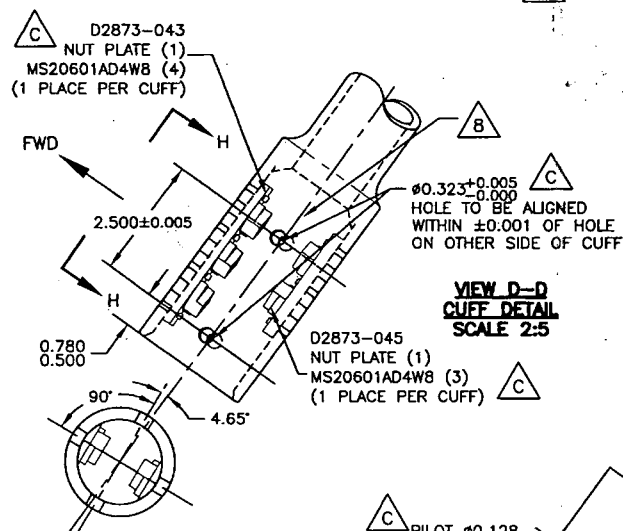
NO. 38168

Copyright © 2002 by DART AEROSPACE LTD

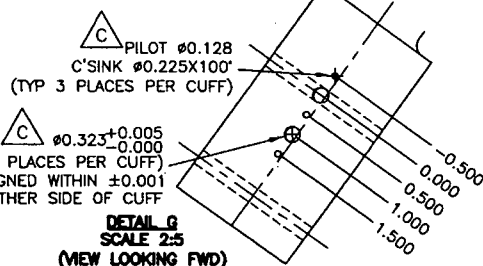
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.



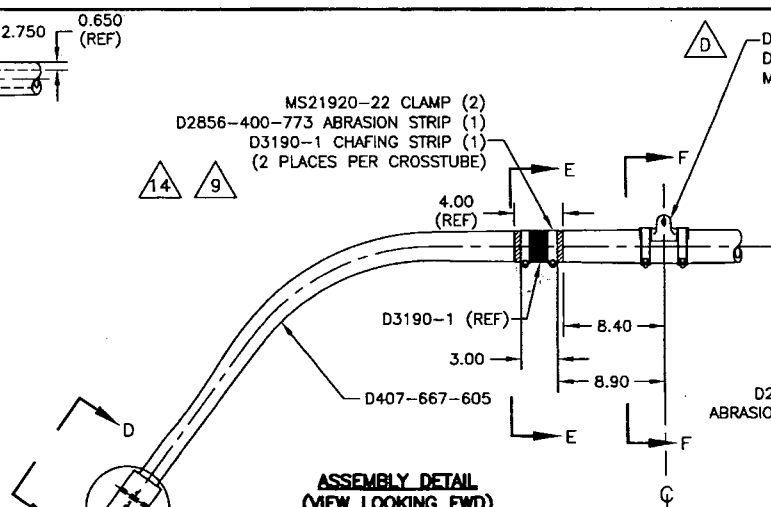
BENDING DETAIL
SCALE 2:5



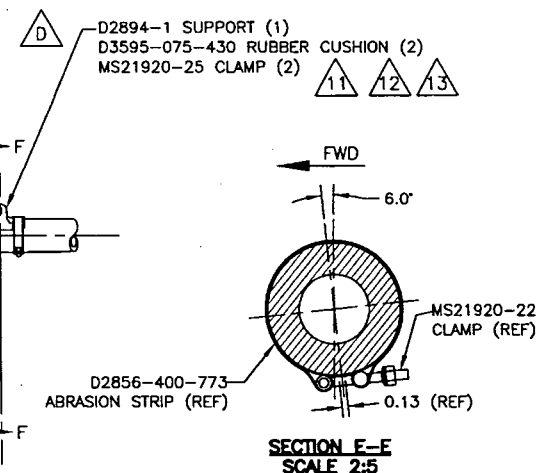
**VIEW D-D
CUFF DETAIL**
SCALE 2:5



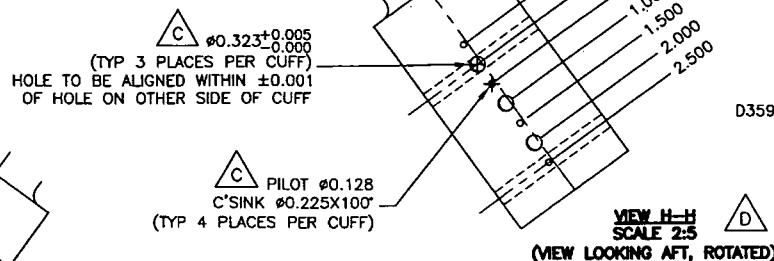
DETAIL G
SCALE 2:5
(VIEW LOOKING FWD)



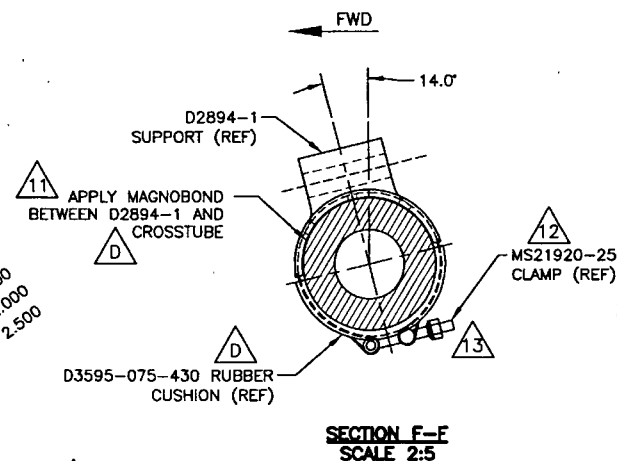
ASSEMBLY DETAIL
(VIEW LOOKING FWD)



SECTION E-E
SCALE 2:5



VIEW H-H
SCALE 2:5
(VIEW LOOKING AFT, ROTATED)

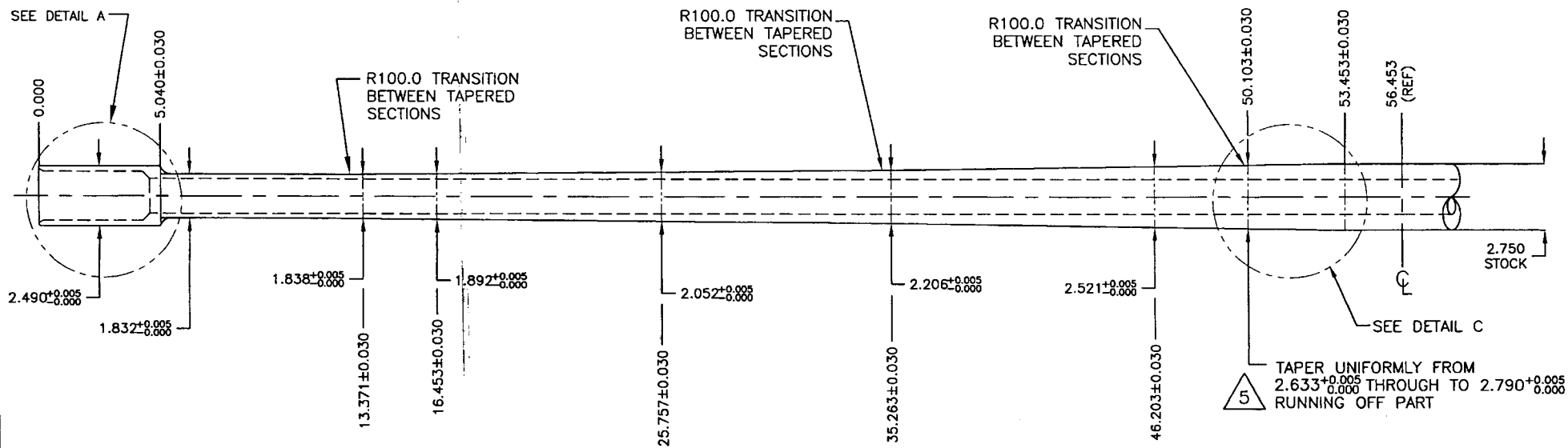


SECTION F-F
SCALE 2:5

07.02.14

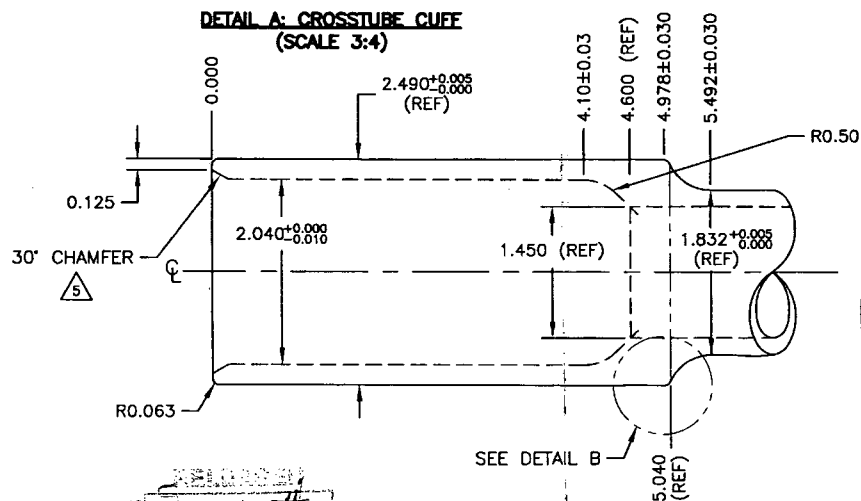
NO. 38168
WORK ORDER
WITHOUT NOTICE
SUBJECT TO AMENDMENT
UNCONTROLLED COPY
ENGINEERING
RETURN TO
SHOP COPY

| | | | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------|----------|----------|----|--------------------------------|---------------------------------------------------|
| COPYRIGHT © 2002 BY DART AEROSPACE LTD. | | DESIGN | PH | DRAWN BY | PH | DART | DART AEROSPACE LTD. HAMPSHIRE, ONTARIO, CANADA |
| THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD. | | CHECKED | PH | APPROVED | PH | DRAWING NO. | REV. D |
| | | DATE | 07.02.07 | | | D407-667-245 | SHEET 2 OF 3 |
| | | | | | | TITLE | SCALE |
| | | | | | | CROSSTUBE ASS'Y (407 HIGH AFT) | 1:10 |

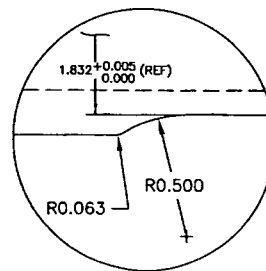


D407-667-245 MACHINING DETAIL

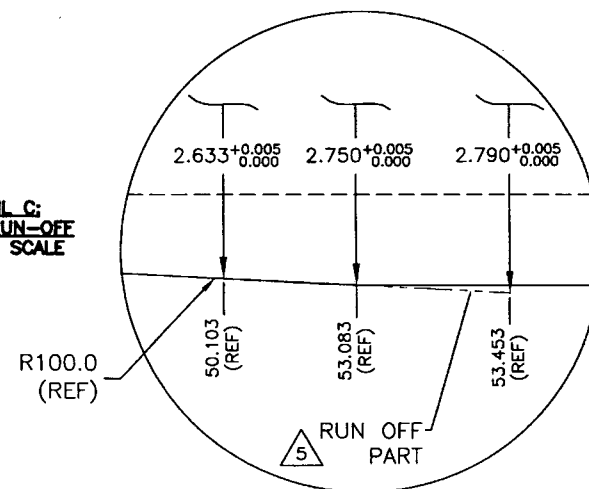
DETAIL A: CROSSTUBE CLIFF
(SCALE 3:4)



DETAIL B: CLIFF TRANSITION
SCALE 2:1



DETAIL C: TAPER RUN-OFF
NOT TO SCALE



COPYRIGHT © 2002 BY DART AEROSPACE LTD.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

| | | | | | |
|---------|----------|----------|----|--------------------------------|---------------------------------------------------|
| DESIGN | PH | DRAWN BY | PH | DART | DART AEROSPACE LTD. HAMPSHIRE, ONTARIO, CANADA |
| CHECKED | PH | APPROVED | PH | DRAWING NO. | REV. D |
| DATE | 07.02.07 | | | D407-667-245 | SHEET 3 OF 3 |
| | | | | TITLE | SCALE |
| | | | | CROSSTUBE ASS'Y (407 HIGH AFT) | 1:4 |

NO. 3816-8

WORK ORDER

SUBJECT TO AMENDMENT

CONTROLLED COPY

ENGINEERING

RETURN TO

SHOP COPY

267.02.14

